GPS Vehicle tracker

(GPS+GSM+SMS/GPRS)

User Manual

(Version 5.0N)

This user manual has been specially designed to guide you through the functions and features of your GPS vehicle tracker.

Tel:0086-591-87610093, 87614264 Fax:0086-591-83640189,87279269 E-mail:qqmd@fcanwell.com

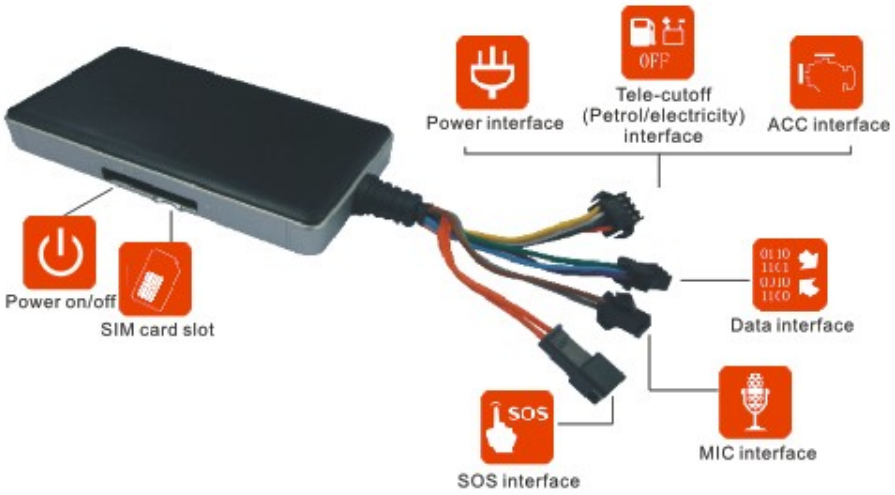
1. Accessories:

- Device
- Power cord
- Relay
- Microphone
- SOS alarm cable & button
- User Manual

2. Specifications

Dimension	106(L) x 54(W) x 16(H) mm
Weight	96g
Backup Battery	450mAh / 3.7V
Operation Temperature	-25℃-60℃
Humidity	5% - 95%
Standby Time	60hours
GSM Frequencies	850/900/1800/1900 MHz
GPRS	Class 12
GPS Channel	20
GPS Sensitivity	-159dBm
Acquisition Sensitivity	-144dBm
Position Accuracy	10m
TTFF （Open Sky）	Cold Start: ＜38s
	Warm Start：＜15s
	Hot Start：＜2s
GSM/GPS Antenna	Built-in design
LED Indicator	GSM-green, GPS-blue, Power-red
Data Transmit	TCP, SMS
Geo-fence	View any existing Geo-fence in the map
Speeding Alarm	Report when speeds higher than the pre-set value.
Low Power Alarm	Alarm when backup battery is running out
Non-movement Detection	Movement alarm based on built-in 3D motion sensor
Mileage Report	Track by time/distance interval
Remote Control	Cut off petrol/electricity

3. LED Indications



GPS LED Indicator - Blue	
Flashing (interval 0.1s)	Searching GPS signal
Solid blue	GPS fix
OFF	No GPS fix or initializing

GSM LED Indicator - Green	
Quick flashing (interval 0.1s)	GSM initializing
Slow flashing (flash 0.1s every 2s)	Receive GSM signal normally
Solid green	Connected to GSM network
OFF	No GSM signal

Power Status - Red	
Flashing (interval 0.1s)	Low battery
Slow flashing (interval 0.2s)	Full charge
Slow flashing (flash 0.1s every 2s)	Normal operating
Solid Red	Charging
OFF	Low battery/Power off

Ignition detection indication: three LED indicators take turns flashing.

4. Getting Started

Please follow below instructions for ensuring safe and correct use.

4.1 Install the SIM card

Place the SIM card into the device with the gold-colored side facing down.

Note: Make sure there is enough credit on the SIM card. If you will be using the GPRS function, you should pay attention to the current SIM card GPRS charge.

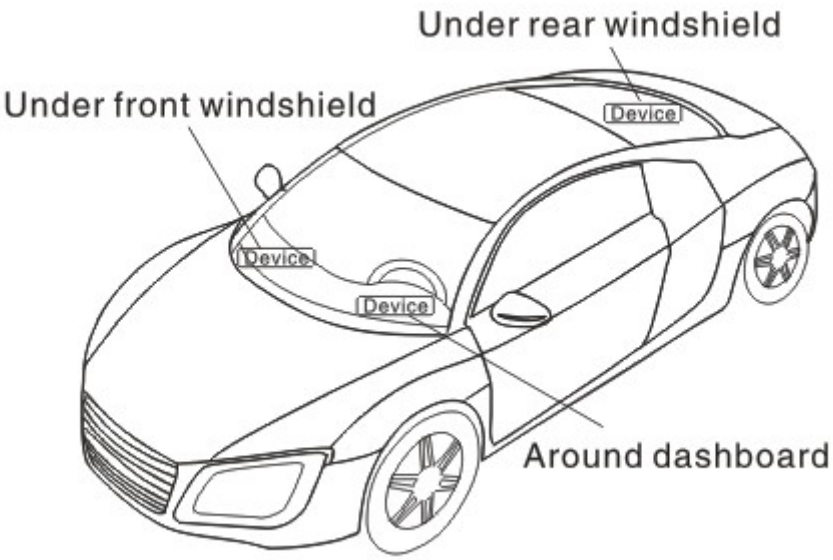
4.2 Install the device

You need to choose somewhere that it won't be found, because the whole point of fitting covert GPS vehicle tracker is the secrecy element.

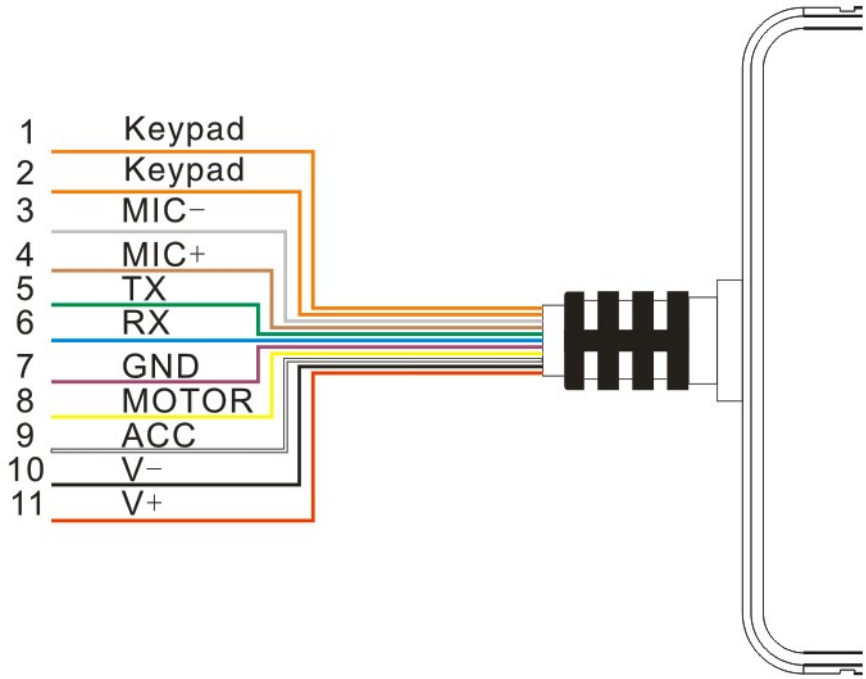
Installation please refers to below picture.

NOTE:
1. Any high power devices such as reversing radar, anti-theft device or communication equipment would affect the signal of the device.

2. All metallic cases of the windshield will attenuate the signal on the tracking device. It's simply due to the shielding effects of the metal compound of the case.



4.3 Wiring configuration



Line No.	Specification	Color	Instruction
1. 2	Keypod	Orange / Orange	Connect to SOS button
3. 4	MIC-,MIC+	Black / Red	Connect to Microphone
5	TX	Green	Sending data (TX) / backup
6	RX	White	Receiving data (RX) / backup
7	GND	Black	Ground wire
8	MOTOR	Yellow	Connect to relay control line
9	ACC	White	Connect to ACC ignition
10	V-	Black(thick)	Negative side of 12V/24V car storage battery.
11	V+	Red(thick)	

Notes of the relay wiring

The relay wiring of pump: oil connectors of both ends are a fine white line (85) and a fine yellow line (86). The fine white line (85) is connected to vehicle positive power (+12V). The fine yellow line is connected to the device relay control line.

Cut off the positive connection line of the pump; then connect in series to the relay N.C. contact (thick green line 87a) and the other end to relay COM contact (thick green line 30).

4.4 Device wiring diagram

Please choose the right relay (12V-standard / 24V-optional) for the proper installation.

4.5 Power/ACC/Tele-cutoff(petrol/electricity) control line (4 pin)

1. Your device comes with a power cord and is designed to use only manufacturer-specified original device. The red line is positive while the black one is negative (the side should not be connect with ground wire).

2. The ACC line (white) connects to ACC switch of the vehicle. Please be sure to connect the ACC line; otherwise the device will enter ignition detection status when disconnect the ACC line. If you don't need to anti-theft temporarily, just connect the ACC line to the positive side in parallel.

3. Tele-cutoff (petrol/ electricity) control line (yellow) is connected to pin 86 of the Tele-cutoff (petrol/ electricity) relay (equal to the yellow line of the relay socket).

4. USB cable (3 pin)
Firmware updating interface/expanded function to reserve space.

5. MIC line (2 pin)
Externally connect to microphone for voice monitoring function.

6. SOS line (2 pin)
Externally connect to SOS switch for SOS function.

5. Quick Operation Instructions

Operation Tips: To properly use the device, common parameters should be set before initial use. This can be done by using the parameter editor or by sending SMS commands to the device. (",”should be English comma and no space before and after the comma)

5.1 APN setting

To connect default platform http://www_____, please send the SMS command below:APN command format: **APN,APN's Name#**

E.g: APN,internet# (“internet” is the APN of carrier)
The device will reply “OK” if setting successfully.

Note: The APN of some countries have user name and password, you may need to send SMS command as following:

APN,APN name,user name,password#
E.g: APN,internet,CLIENTE,AMENA#

5.2 DNS setting

To connect other platform, please send the two SMS commands bleow:
Command format：
SERVER,1,DNS,Port,0#
E.g:
SERVER, 1,www.
It will reply “OK” after set successfully.

5.3 ON /OFF GPRS

When you want to disable GPRS, you can SMS command to the SIM card number which used in the device.
Command format:
GPRS ON：**GPRSON,1#**
GPRS OFF：**GPRSON,0#**
It will reply “OK” after set successfully.

5.4 Add specific number

SMS command to the device to set the SOS number.
SOS,A,No.1,No.2,No.3#
“A” means to add new numbers, for example:
SOS,A, 13510905991,13510905992,13510905993#
If there is only one SOS number, you can appoint a specific number as SOS number. And the null means no adding.
For example:
SOS,A,13510905991# means to set the first number as SOS number
SOS,A,,13510905992# means to set the second number as SOS number
SOS,A,,,13510905993# means to set the third number as SOS number

If set successfully, there is a “success” reply SMS.

5.5 Delete specific number

Before deleting specific number, please check its corresponding code. For the code, please SMS “**PARAM#**” to the device.
SMS command to the device to delete the number.
SOS,D,serial NO.1,serial NO.2,serial NO.3#
“D” means to delete the number, for example:
SOS,D,1# means to delete the first number
SOS,D,3# means to delete the third number
If you want to delete more than one numbers, you can send this command:
SOS,D,1,3# means to delete the first and third numbers.

If you forget serial number of the mobile number you want delete, you can send this command:
SOS,D,mobile number# means to delete the mobile number directly.
For example:
SOS,D,13527852360# means to delete the 13527852360 directly.
After deleting the SOS number, it will receive “Delete number 135XXXXXXXX success! specific number total 2” for successful deleting of the specific number.

5.6 Set the center number

If you want to cut off/restore oil by SMS command, you have to set a center number firstly. Only the center number can send the cut off/restore oil command to the device. You can set your own mobile number as center number.
The command for setting center number is:
CENTER,A,mobile number#
For example:CENTER,A,15942703401#
If set successfully, there is an “OK” reply message.

NOTE：Only the SOS number can be used to set center number successfully.

5.7 Delete the center number

SMS command to the device to delete the center number.
The command is:**CENTER,D#**
For example:CENTER,D#
If set successfully, there is an “OK” reply SMS.

NOTE：Only the SOS number can be used to delete center number successfully.
Only SOS phone number can send this command successfully to set the center number.
There is only one center number can be set.

5.8 Check parameter setting

Send command to the terminal, you can check the parameter setting.
Command format: **PARAM#**
e.g.: PARAM#
Information replied:
IMEI: 353419032348877 ---IMEI number of the device;
Timer: 10,10; ---GPS data uploading Interval;
SENDS:5; --- the GPS working time when ACC is OFF;
SOS: 15942703401; --- SOS numbers, maximum 3 SOS numbers can be set and used for alarm and monitoring;
Center Number: 15942703401; ---only 1 center number can be set and used for cutting off /restoring oil command;
Sensorset:10,1,5,180 --- detect 5 vibrations in 10s; the alarm delay is 180s;
Defense time: 10; --- the defense delay is 10 minute;
TimeZone:E,8,0; --- set time zone; default as E8.

The replied information contains IMEI number, GPS data uploading interval, SENDS, SOS, center number, sensor set time interval, defense time and time zone.

5.9 Check GPRS parameters

SMS command format：**GPRSSET#**

Eg：GPRSSET#

Reply message：

GPRS:ON //GPRS on/off status//

Currently use APN:,,; //APN setting information//

Server:1,egt06.szdatasource.com,8841,0; //platform information//

URL:http://

5.10 GPS data uploading interval

The default sending interval is 10,10. It means when ACC ON ,the device will upload positioning data to platform server every 10s.when ACC OFF ,the device will upload positioning data to platform server every 10s.

Users can modify sending interval by SMS

“TIMER,time1(seconds), time2(seconds)”

The time1&time2 ranges from 10-18000s

For example:TIMER,10,20#

It means when ACC ON ,the device will upload positioning data to platform server every 10s.when ACC OFF ,the device will upload positioning data to platform server every 20s.

5.11 Sensor alarm time setting

When the vehicle power is off and ACC is in low-level, if ACC is off over 10 minutes, the device will enter sensor alarm state. In this case, if the vehicle vibrates for a few times, it will activate the vibration alarm system. If the vehicle battery is still not on (ACC is in low level) after 3 minutes, the device will start vibration alarm.

SMS format: “**DEFENSE,TIME(minutes)#**” The time ranges from 1 to 60 mins.

For example: DEFENSE,15#. It means when ACC is in low level for 15mins, it will enter sensor alarm status (vehicle power is off)

NOTE：

1. Preset SOS numbers when send SMS alarm messages and calls
2. If there is no need for vibration alarm, please SMS SENSOR,0# to close it.

5.12 Restore to factory setting

SMS command format: “**FACTORY#**” to set all parameter to default factory value. Once received “OK”, it succeeds.

5.13 Reboot device

When there is something wrong with the link of GPRS, e.g., The parameter setting of the device is correct, but you can't track the car on the platform. At this moment you can send a

command to the device to reboot the device.
The format is: **RESET#**
After receiving this command, the device will reboot after 1mins.

6. Operation of device

6.1 Power on/ Power off

Power on: Once insert a valid SIM card and connect all the wires, turn on the device, then Power LED will flash first, During signal searching process, GSM and GPS LED will flash. Once GPS LED keeps solid light, it means the device has been located and it starts to work.
Power off: Just turn off the power switch.
The device will begin to upload positioning data to server once inserting a valid SIM card and power on. During the working time, it can upload data to server every 10 seconds.

6.2 Check location

1. Via SMS

1.1 SMS "**WHERE#**", to the SIM number of device. The device will send a location message automatically. You can get the coordinates. If the device does not search any information of location, it will send "No data" to the cell phone.
Example:
Lat:N22.571285,Lon:E113.877115,Course:42.20,Speed:0.0740,DateTime:10-11-23 22:28:51

1.2 SMS "URL#", to the SIM number of device. The device will send a location Google Map link. If the device does not search any information of location, it will send "No data" to the cell phone.
Example:
<Date Time：10-11-23 23:42:51> http://

2. Via platform

Go to the platform website offered by dealers to check your vehicle location.

6.3 SOS alarm

In emergent case, press SOS for 3s to activate SOS alarm. Then the device will send SOS SMS to preset specific numbers and then dial the numbers in circles until the call is picked up. At the meantime, the device will upload SOS alarm data to the server. And it will send: SOS Alarm! <DateTime:11-06-17 14：53：06>，http://

Note: The specific numbers should be preset, just refer to 6.4

6.4 Wire cut-off alarm

When the electricity supply of device is cut off, it will activate cut-off alarm. In this case, the device will send related SMS to the specific numbers and dial the numbers in circles. If nobody answers, the call just keeps 3 loops at most. At the meantime, the device will upload SOS alarm data to the server. And it will send:
Cut Power！<Date Time:11-06-17 14：53：06>，http://

Note: The specific numbers should be preset, just refer to 6.4

6.5 Low battery alarm

When the device is only working with battery, once the internal voltage of battery is less than 3.7V, device will send low battery alarm sms to specific number and alarm on platform. Low battery alarm sms content example: “Attention!!!battery too low, please charge.” Which means the battery is to low, to inform user charging it in time.

Note: The specific numbers should be preset, just refer to 6.4

6.6 Vibration alarm

The vibration alarm function is off by default. To activate this function, please send the following command: SENALM, ON#. The alarm will be sent to both the service platform and SOS numbers.
When vehicle power is off, ACC status is low, and if the lead time of low ACC is more than 10 minutes （settable）, device will activate security alarm. When the security alarm is on, once the vehicle vibrates for several times, the alarm will be activated; in the next 3 minutes, if vehicle power is still off（ACC status is low）, device will start alarm. At this time, it will send alarm message to the service platform with the latitude and longitude, while the platform will reply the Chinese address. Then the terminal will send vibration alarm message to SOS numbers with the Chinese address, and call the SOS numbers in cycle. If nobody answers, it will stop calling after 3 loops.
If the Chinese address can not be acquired for certain reason, the terminal will send a message with the website link to the SOS numbers.
e.g.:Sensor Alarm！<11-23 14:53>, http://

Note:
1.The SOS numbers should be preset.
2.Send “SENALM, OFF#” to turn off the vibration alarm.

6.7 Voice monitoring

When the special number cell phone dial device, ringing for 10 seconds, it will enter voice monitoring status. At this time, caller can monitoring the sound in vehicle. Incoming call from non special number will not activate voice monitoring function.

Note:To realize this function, please set special number beforehand.
The SIM card put into the device should be equipped with caller identification.

6.8 Oil cut-off

1. Via platform

Send oil cut-off command on platform. To make sure the security of vehicle, tracker can only indicate to cut off oil when GPS is in valid position status, and the speed is less than 20KM/H or in static. Platform account password is needed when sending oil cut off command.

2. Via SMS

Firstly, you should set a center number. Please refer to 6.6.Only center number can send the command to the device to cut off and restore oil.
The format is: **RELAY,1#**
After the command is carried out, it will reply “Cut off the fuel supply: Success! Speed:0 Km/h”. If the command didn't carry out, it will reply the reason about fail to carry out.

Note: To ensure the safety of the driver and the car, this command is valid only under two conditions: the GPS is located; the speed is less than 20km/h

6.9 Restoring Oil

1. Via platform

When the alarm is off, sending recover oil commands manually. Device will restore oil supplying, and vehicle will work normally again.
Platform account password is needed when sending oil cut off command.

2. Via SMS

Only center number can send the command to the device to restore oil.
The format is: **RELAY,0#**
After the command is carried out, it will receive “Restore fuel supply:Success!”

6.10 Over speed Alarm

When the car is moving over a limited speed in average in a limited time period, then the device will send over speed alarm SMS to user.
To turn on the over speed function, please send below SMS command:
SPEED,ON/OFF,Time,Limited speed,uploading mode#
Speed alarm switch:ON/OFF default:OFF
Time range (seconds):5-600s(default as 20s)
Limited speed range(km/h):1-255km/h. default:100
Mode:0/1. default:1 way of alarming,0 means GPRS only,1 means SMS+GPRS
Example:SPEED,ON,20,100,1#
Means when the car is moving over 100km/h in average in 20 seconds,the device will send over speed alarm to user

7. Web based tracking online activation

The GPRS web based tracking platform allows real time tracking with the latest Google maps. There is also a playback feature that allows you to view where the vehicle has been for up to 30 days in the past making it ideal for fleet management.

8. Trouble shooting

If you are having trouble with your device, try these troubleshooting procedures before contacting a service professional.

Problems	Causes	Solutions
Fail to connect platform	The fuse blows	Replace the fuse
	ACC ignition disconnected	Turn on ACC with key
Fail to connect network	Wrong installation of SIM card	Check SIM card installation (Refer to 4.1 Install SIM card)
	Filth on the SIM card iron surface.	Clean it
	Useless SIM	Contact internet service provider
	Improper installation	Check installation of device (Refer to 4.2 Install the device)
	Beyond GSM service area	Use it in effective GSM service offer area
	Bad signal	Try again in a better signal area
Fail to charge	The voltage is unsuitable	Connect with power with suitable voltage
	Improper connection	Check connection with charger